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As one of its major activities in carrying out its purpose, the Society publishes a monthly magazine, the Canadian Geographical Journal, which is devoted to every phase of geography—historical, physical and economic—of Canada, of the British Commonwealth and of the other parts of the world in which Canada has special interest. It is the intention to publish articles in this magazine that

will be popular in character, easily read, well illustrated and educational to the young, as well as informative to the adult.

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Geiranger, at the head of Geirangerfiord. The road on the right winds in abrupt curves from Grasteindal up to Grotli, more than 3,000 feet above sea level.

Norway - The Way to the North

by NORMAN L. NICHOLSON

Photographs by courtesy of the Royal Norwegian Legation unless otherwise noted.

TO A NORWEGIAN, the name of his country is *Norge* which means "The Way to the North". From time immemorial, the name was used to describe the sea route along the most northerly coast of Western Europe but today the country of Norway is not only the most northwesterly in Europe; it is also the longest and narrowest. Its most southerly point is only a little south of the latitude of Churchill, Manitoba, and its most northerly continental point is in the same latitude as the southern part of Banks and Prince of Wales Islands. Yet at its widest, the country does not extend over more than 280 miles, approximately the distance from Ottawa to Hamilton, and its total area is equal to about one-third that of the Province of Ontario.

The Physical Environment

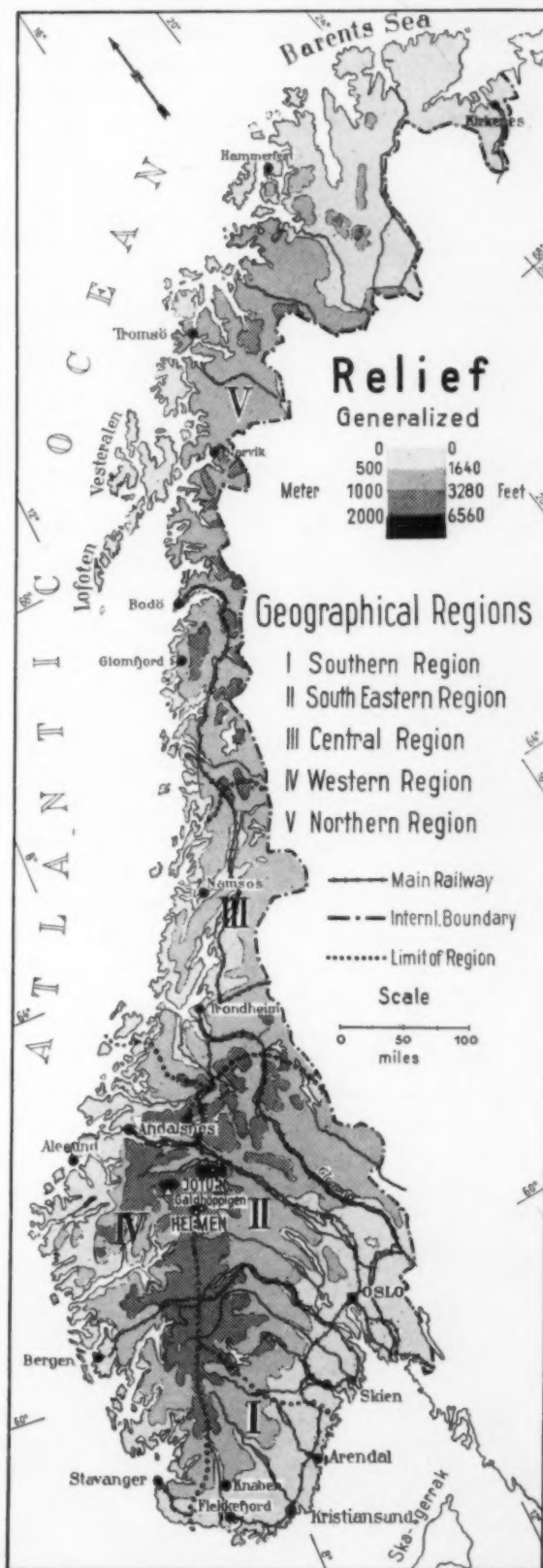
The fantastic shape of Norway is basically due to the fact that the country is essentially one great broad group of mountains which extend throughout its entire length. Of ancient origin, these mountains were subject to active forces of erosion such as the glaciers of the Ice Age, so that today they represent the ruins of far higher folded mountains which existed in an earlier period of the earth's history. Towards the west, the river valleys were deeply excavated by the ice so that they came beneath the level of the sea and now form fiords which extend far into the mountains and present their characteristic high steep sides to the water to provide the scenic beauty for which the coast is famous. The greater part of the

coast is fringed with a belt of hundreds of thousands of islands, called "skerries", which protect the coastal waters from the storms of the ocean and guard "the northern way".

Only one fifth of Norway is lower than 500 feet above sea level. Hence lowlands are limited in extent and, apart from a narrow strip along the coast, they are found mainly in the long, broad and shallow valleys in the southeast, like that of the Glomma River, and around Trondheim, in the so-called Trondheim Depression. Between these valleys and the fiords, the plateau-like highland is either bare rock or covered with tundra vegetation or perpetual snow. Lakes are also numerous, as they are on the Canadian Shield, many of them being merely expansions of rivers. Together they occupy a greater area than the present cultivated land. The highest parts of the mountains are in the southwest in the area known as Jotunheimen or "Giant's Home", where they reach over 8,000 feet in height to include Galdhøpiggen, the highest peak in Europe north of the Alps.

Norway has much warmer weather than one would expect in a country located in such high latitudes, especially in winter. This is due to the warm, northward drift of ocean water, an extension of the Gulf Stream, and the predominant southwest winds. Thus the average January temperatures at Tromsø, a town farther north than Aklavik in the Northwest Territories, is 27 degrees F. which is higher than the average January temperature for Toronto. Consequently, although nearly one third of Norway lies north of the Arctic Circle, all of its harbours are ice free.

Then the southwest winds, having passed over the sea, are moisture-laden by the time they reach the coast of Norway, where they are forced to rise by the steep westward facing slopes of the mountains to cause heavy rainfall along the coast in much the same way that heavy precipitation is common along Canada's west coast. Farther inland, the annual rainfall decreases and is



Canadian Geographical Journal map

comparable with the annual precipitation of Southern Ontario and Quebec. Such climatic conditions permit the natural growth of coniferous forests in the lower parts of southern Norway, but above 2,500 to 3,000 feet and in the north, such trees are found only in sheltered localities and toward the Finnish border.

Economic Activities

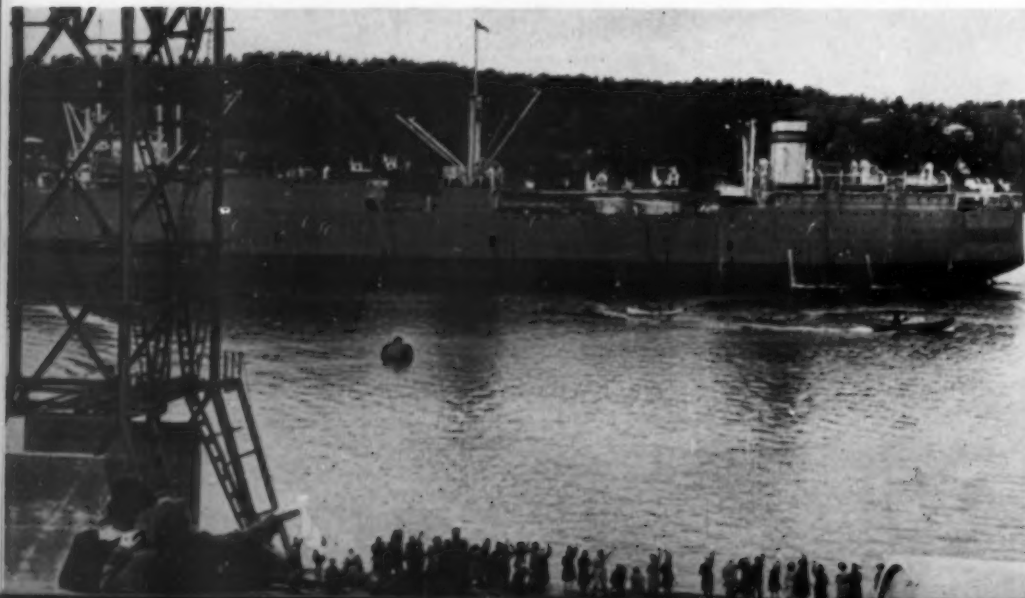
In such an environment today live about three million people. Their activities, naturally, vary with the part of the country being considered, but, taking Norway as a whole, more people are engaged in agriculture and forestry than in any other group of occupations.

After the tundra-covered mountain areas, the largest part of Norway, about one-fifth of its total area, is covered with productive forests and woodland. Under natural conditions, western and northern Norway do not support trees of great commercial value, but afforestation and reforestation are supplementing the spruce and pine from the rest of the country which is the basis of Norway's pulp and paper industry. The logging operations are similar to those carried out in many parts of Canada. During the winter, most of the timber is cut and hauled to the river banks and in the spring it is floated down the rivers to the industrial plants to which it is sold. Since World War II, mechanization of forestry operations has progressed rapidly. Trucks and tractors have come into general use and new roads, suitable for heavy motor traffic

and long-hauling operations, have been constructed. Many of the power saws now in use for felling, incidentally, were imported from Canada.

Only about three per cent of the total area of Norway is cultivated and most of this is used for the production of hay, barley and oats for the feeding of livestock. Thus dairy produce occupies a prominent place in Norwegian agriculture although wheat, rye and potatoes are grown for home consumption. Transhumance (seasonal migration) is an important feature of the agriculture in the upper parts of the large valleys and in west Norway, where the cattle are led up to the mountains for about three months in summer in order to enjoy the pastures above the tree-line. A certain number of farm workers move with the animals to the *saeters* and descend to the valley quarters for the winter. The farms are small on the average, and most of them are owned by the farmers themselves. Part-time farming is common, the usual combination being with lumbering, or, along the west coast, with fishing. As with forestry, increasing mechanization is a notable feature of Norwegian agriculture today. For example, some 8,000 tractors were in use at the end of 1949 as compared with 2,800 in 1938. As a result of more intensive farming on the better soils, there is a tendency to abandon the sub-marginal areas with low crop yields and the total area under cultivation is smaller than before World War II.

With some 12,000 miles of coastline, it is



The Norwegian floating whale factory Sir James Clark Ross at Sandefjord on the south-east coast of Norway. Sandefjord is often referred to as the city with the largest whaling fleet in the world.

Right:—Borregaard paper mill. This is the largest in Norway and on it the whole town of Sarpsborg is either directly or indirectly dependent.



Karl Johans Gate is the principal street in Oslo, the capital of Norway. The street runs from the Royal Palace, and includes Oslo University, the Parliament Buildings and the National Theatre (left in the above photograph) as well as modern stores and office buildings like those on the right.

natural that Norway's intimate connection with the sea should have a profound influence on its people. From earliest times, the sheltered coastal waters have provided training areas for seamen who were later to

make extensive ocean journeys. Today, one aspect of this is reflected in the fishing industry. This is essentially based on cod and herring, hundreds of millions of which migrate annually from the Barents Sea to

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Farms at Vaagaa in Gudbrandsdal, southeastern Norway. The method of drying hay by hanging it over a wire so as to catch the wind is customary in Norway. The pile of stones in the foreground indicates that cultivating the land is not always easy.

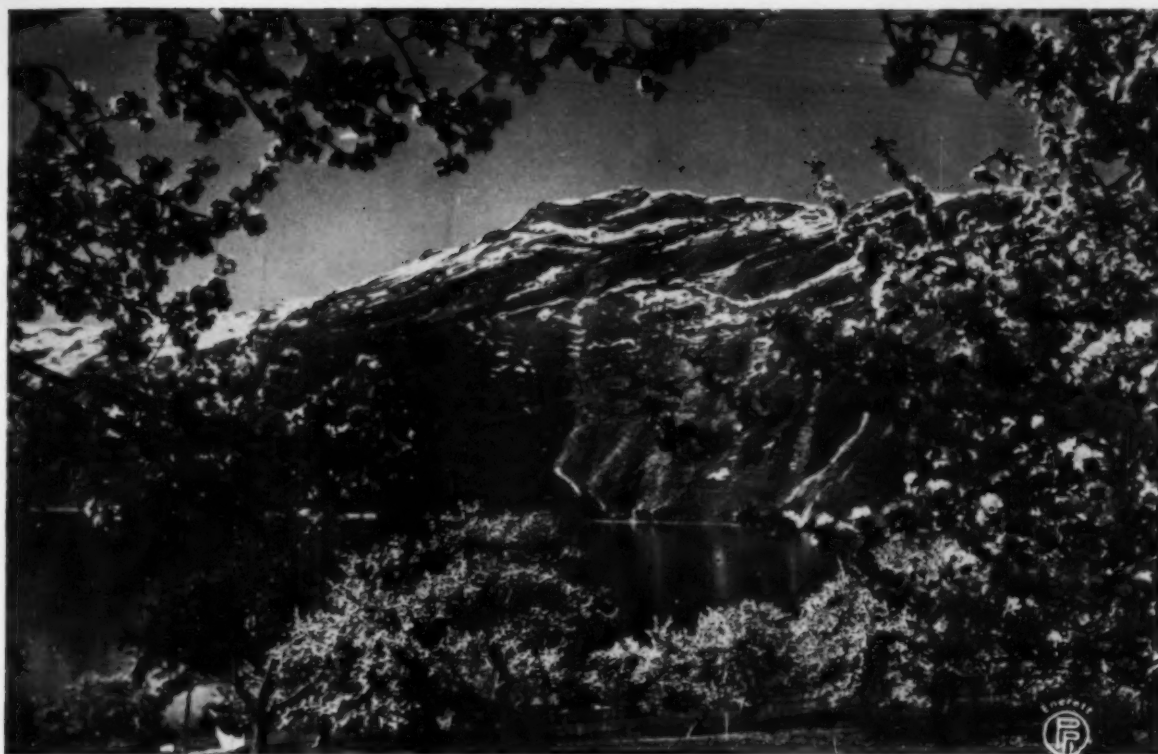
the coasts of Norway to spawn. The largest cod fishery in the world is located off the Lofoten Islands from January to April. During the season as many as 40,000 fishermen gather here, and after reaping their harvests of fish, some move north to the summer cod fishery while others return to their farms to reap the harvest of the land. Both groups meet again in October and

November to engage in the herring fishery. The so-called "home fishing" however, takes place all the year round, the main species caught being mackerel, haddock, halibut and plaice.

Competition from other nations has forced the Norwegian fishermen to modernize their methods and equipment in recent years and now the fishing fleet is not only

Dairy cattle are taken to pastures high in the mountains for three months summer grazing.





Apple blossom time along Hardangerfiord, south of Bergen, in western Norway. The cultivation of fruit, especially apples, plums and pears, has increased in recent years, and has become a considerable source of income for the farmers.

larger than before the war but most of the new ships are bigger. In recent years too, fish canning has developed rapidly as has the deep freezing of fish for export. Norwegians were among the first to take up modern whaling which was formerly carried on only in Norwegian waters but since the beginning of the century has been extended to the Arctic and Antarctic Oceans. As a result of new factory ships and equipment which enables the whale carcasses to be used more completely, Norway in 1948-49 furnished over half the world's supply of whale oil.

But by far the greater proportion of Norway's exports consist of industrial products and industrial development has characterized the country's post-war economy. The key to this expansion was the increased utilization of water power, for the only coal available within the kingdom is mined in Svalbard, 360 nautical miles from the Norwegian mainland, which only produces one tenth of the nation's requirements. Those rivers which flow westward are nearly

all short and swift and interrupted by waterfalls which represent large amounts of energy. The total amount of water power in Norway has been estimated at 12 million horsepower of which about 4 million have been developed—a little more than is at present developed in the whole of the Province of Ontario. Water power in Norway has several geographical advantages. First of all, many of the waterfalls have high heads, which lowers the cost of their development. More than 60 per cent of the water power utilized is found in falls with heads of over 950 feet. Secondly, the large numbers of lakes provide ready-made reservoirs for the storing of water. Then the water power is also concentrated at a few places, over three quarters of it being generated in one quarter of the plants, and, since the water power is very close to the fiords, hydro-electric power stations can be built near the sea where there is access to good harbours and sufficient space for industrial plants.

Almost every industry uses hydro-electricity, but particularly those manufacturing



Part of the glacier of Svartisen in northern Norway.

Typical of the engineering problems which face transportation developments in many parts of Norway is this road of hairpin bends in the Romsdal district.



chemicals, especially fertilizers, and refining aluminum. Norway's aluminum output is now sixty per cent higher than before the war and the country now stands sixth among the countries of the world in aluminum production, despite the fact that all the requirements for this industry are lacking in Norway itself, except electricity and determination!

The chief industrial raw materials which Norway provides herself are the products of the forests, for the manufacture of wood pulp, cellulose and paper exceeds all other manufactures. There has been a recent tendency to emphasize the production of paper since it commands a high price and gives employment to more people than pulp production. Another recent development in this field has been the production of rayon fibres. But canned fish, fish oils, margarine and soap are also produced from national resources whereas the ship building and textile manufacturing industries require imported raw materials.



Skiing is second nature to most Norwegians in winter.

Transportation

Transportation in Norway still reflects the maritime location of the country, for the communities along the coast are connected by boat, either express or local services. In many ways the problems are similar to those faced by the Province of Newfoundland where many small communities are almost completely isolated except by sea. Recently in Norway, however, air services have been established, a field in which the youth of the country have proved themselves as proficient as their forefathers were at sea. Owing to the topography, road and rail construction is expensive. Nevertheless, these have been built with success, particularly in the southern part of the country. Oslo, the capital city, is the centre of the railway system, about one-fifth of which is now electrified, and further electrification is planned.

Thus, although Norway as a whole is mainly a northern, mountainous land and

its people have a common heritage of the sea and northern agriculture, it is, in detail a country with varied activities and problems which group themselves into five geographical regions.

Geographical Regions

The Southeastern Region is centred around Oslo. It is the most densely populated part of the country and contains about half the total population. It includes the best agricultural land and forest resources and much of the industry, one quarter of which is concentrated in Oslo itself. The Western Region, from Stavanger to Aalesund, is characterized by its marked maritime climate. Bergen, its chief city, and the second city of Norway, has a world-wide reputation for its high rainfall, which averages about 81 inches a year, about as much as falls along the north coast of British Columbia. In this region there is great emphasis on fishing, of which sardine canning is the best known aspect. Dairy farming is



Aalesund, with a population of 19,000, is one of the west coast Norwegian fishing towns. The islands off the coast are typical of the "skerries" which guard the "Way to the North".

also carried on, and, in recent years, electro-chemical and electro-metallurgical industries have been established along several of the fiords. Southern Norway, with its centre at Kristiansand, is generally a region of small, pleasant, shipping and market towns but includes some mining centres of importance. Knaben, for instance, produces almost the whole of the European output of molybdenum. Immediately north of the Southeastern and Western Regions is the fertile agricultural area of Central Norway.

Its centre is Trondheim, Norway's third city, famous for its cathedral which dates from the Middle Ages when Trondheim was a great religious centre. Like Southeastern Norway, this region has important forest resources and industries.

The Northern Region includes all that part of the country lying north of 65 degrees North. It is remote and rocky, covering over 40,000 square miles but inhabited by only 390,000 people. Inland, in the south, some dairy farming is carried on, but in the north,



A small part of the Lofoten fishing fleet with the Vaagekjellen mountains in the background.

North Cape, Norway's most northerly point at latitude 71 degs. 15 mins. North.

in the district called Finmark, there is little economic activity, apart from the herding of reindeer which is carried on by the Lapps in their traditional nomadic way. They tend to spend the winters inland on the arctic pastures and migrate to the coast in summer, thus reversing the movements of their cattle-raising compatriots in the southern part of Norway. Northern Norway has, for generations, depended almost solely on fishing and has, as a consequence, suffered from a certain amount of seasonal unemployment. The standard of living in this region is lower than in any other part of the country, but since World War II great efforts have been made to increase industrialization through the development of water power, for, of the potential 6 million Kw. only about 100,000 Kw. have been developed so far. At present, industry in this region is centred around the iron mines at Kirkenes, the largest in Norway, and the liquid ammonia plant at Glomfjord, which has been built since the war and feeds a nitrate fertilizer plant in Southern Norway. But the present plans are mainly for smaller industrial establishments to bring stability and variety to the northland.

But while Norway is a small nation in a comparatively large country whose economic resources are limited, its influence and activities in the world as a whole are much greater than would be expected.

Norway and the World

Sea-going Norwegian vessels are not by any means confined to the maintenance of national communications, for Norway has a

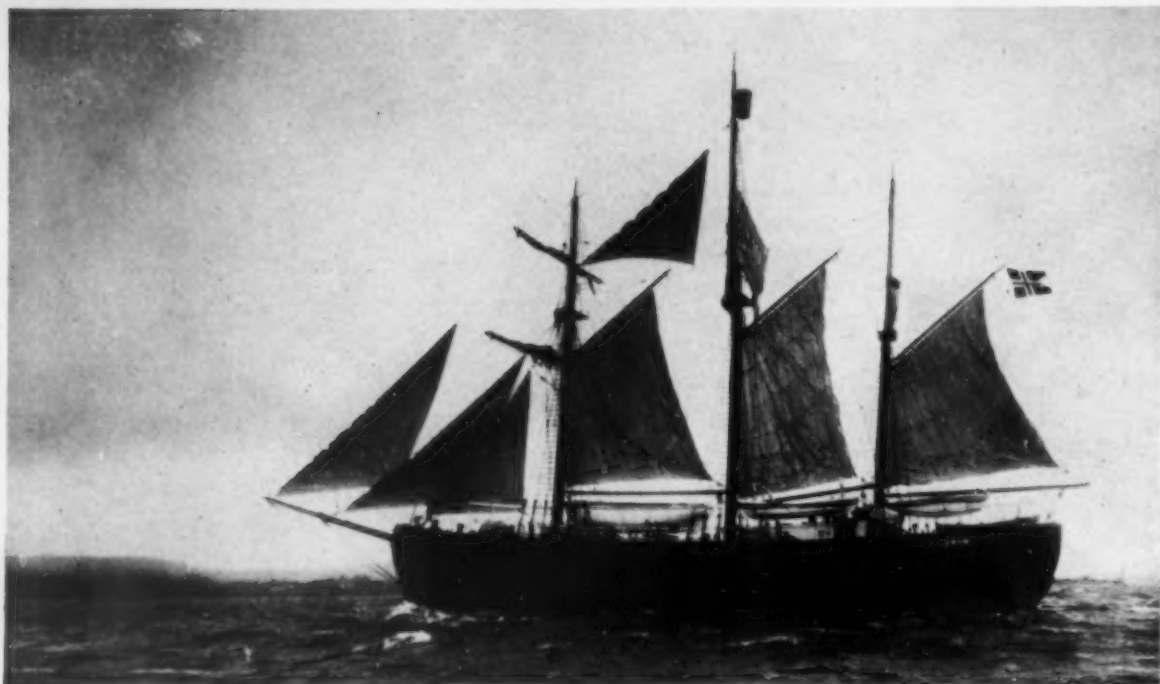


merchant fleet which, in spite of the heavy losses sustained during World War II, is now larger than it was in 1939. This fleet now totals over 5 million tons, holding third place in world tonnage and leading the world on a tonnage per capita basis. It could accommodate the whole of the Norwegian nation, yet only 20 per cent of it is connected with purely Norwegian commerce. Most of the fleet conveys goods between non-Norwegian lands in almost every part of the world.

Much more spectacular, however, have been some of the non-commercial travels

A nomadic mountain Lapp on the high plains of northern Norway with his flock of 3,500 reindeer.





Nansen's ship Fram in which he drifted in the polar ice from 1893 to 1896.

Fridtjof Nansen, world renowned scientist, explorer and statesman.

Photos courtesy Norwegian Travel Information Office.



made by Norwegians who have always been an adventurous people. The sea voyages of Viking times have their modern counterpart in the realm of exploration such as Nansen's crossing of the Greenland Ice Cap in 1888; Amundsen's journey in the *Gjoa* through Arctic Canada in 1903-6 and his distinction of being the first to reach the South Pole in 1911. There is also a parallel between Nansen's drift in the polar ice in *Fram* from 1893 to 1896 and Heyerdahl's drift across the Pacific in *Kon-Tiki* in 1947.

Many of these journeys and voyages have been made in a manner which defied tradition and perhaps it is because of this open-mindedness and interest in other parts of the world that Norwegians have developed such an impartial attitude to international affairs, and have made such contributions to the cause of peace. It is said that it was Björnstjerne Björnson's ideas of peace which led Alfred Nobel to entrust the awarding of the Nobel Peace Prize to a committee of the Norwegian Parliament. This prize was awarded to Dr. Nansen in 1923 for his humanitarian work after World War I when, as High Commissioner for the League of Nations, he was responsible for the repatriation of about 500,000 prisoners of war. His



The balsa raft Kon-Tiki which voyaged from Peru to the south Pacific islands.

work for peace was recalled at the end of World War II when another Norwegian, Trygve Lie, left his post as Norwegian Minister of Foreign Affairs to become the first Secretary-General of the United Nations Organization.

Norway long maintained an attitude of neutrality in world conflicts. With her back to Sweden and separated from Denmark by the Skagerrak, she finally obtained political independence from these countries in 1905 and faced the world alone. But World War II showed that neutrality was no guarantee against alien occupation and Norway returned to a consideration of joining a Scandinavian defence pact with her neighbours. But her overseas ties were too strong and she eventually joined the North Atlantic Treaty Organization.

Thus, the "way to the north" has led to a people who by their determined industry have developed the resources of a challenging environment to build the economic basis necessary for a democratic way of life. Yet, in doing so, the Norwegians have shown the world that their comparatively few numbers have been no hindrance to making significant contributions to world peace.

Thor Heyerdahl who conceived and led the Kon-Tiki expedition.

Photos courtesy George Allen & Unwin Ltd., publishers of "The Kon-Tiki Expedition."





Saskatchewan's North

by JIM WRIGHT

LOOKING DOWN through a mile of summer air on fresh-water lake and stream covering much of Saskatchewan's Precambrian region, the rugged terrain seems impenetrable.

Map propped against canvas bedroll, you read the airflight course, identifying larger island-studded lakes with notched shoreline of dark green coniferous forest. Water covers more than one-third of the area. There are smaller lakes of diverse shape, many of them mapped; and rock-clamped, pine-rimmed blue basins not shown.

Treeless brown muskeg is spring pasture for the obdurate moose, winter grazing-lease for inquisitive caribou. All is ambling territory for the unpredictable bear; and timber wolf is down there, too, though less

often seen from the air. Far below by the aircraft's skimming shadow, a deer with fawn feeds from muskeg by a shore. White glint of wing at lake level could be an arctic hawk hovering for a meal of fish.

During an hour's flying over this luring lake, rock, bush and muskeg, you may see no man down there, no sign of human habitation. For this is part of Canada's vast northland resounding to the aeroplane's whirring throb, a last physical frontier of man's encroaching technology.

Inside the aircraft's freight-packed fuselage, the undulating roar of engine restricts communication to shouts. At the opposite window, on a carton of powdered milk, sits a prospector. He too follows the course with map—a geological map—and ponders if

At top:—Saskatchewan Department of Natural Resources surveyor's camp.

Saskatoon Star-Phoenix



Woodcock Falls, one of many rugged beauty spots on northern streams.

DNR Surveys Branch

copper, gold, zinc, or uranium-bearing ore lie undiscovered in the terrain beneath. From windbreaker pocket he takes jack-knife and pipe, scrapes the bowl, fills it with tobacco. But he does not light up, for the bush pilot had said with nonchalant drawl, before we took off from the North Saskatchewan River at Prince Albert, "Gentlemen, in deference to four cases of prospectors' dynamite in the cargo, no smoking please".

The aircraft is losing altitude for landing at an outpost settlement. As we skim close above the lake surface, the sense of speed, left behind at takeoff, abruptly returns. At seventy miles an hour, pontoons pat the waves. From below comes a pounding rumble like a swift-running bob-sled on hard-packed ridgy snow. Water's frictional drag slows the aircraft and we turn to taxi toward the wharf where Indians, Whites and Métis (mixed North American Indian and European) have gathered as they do at the

approach of any aeroplane. Behind the wharf are the gasoline drums; and beyond on a rise of spruce-etched rock stands a permanent appearing church building not far from the trading post. Off to one side is a straggling collection of unpainted camplike dwellings. The motor stops; a fisherman-trapper's outstretched hand catches the mooring rope. Women and children watch silently, while sleigh dogs, chained on compulsory summer holiday, howl their wolfish chorus of greeting. Mail and air-freight unloaded, crew and passengers have stretched their legs. The brief visit is ended. The propellor turns slowly over on the self-starter, the engine coughs, takes hold, and we head for open water, into the wind for takeoff, heading north.

Bordering the Precambrian region proper, in Saskatchewan's far northeast corner, is the *mistik-ka-na-ma-ta-koo*, the "land of little sticks". Here the rock is less exposed, and

lakes are fewer. Stunted pines form the sparse subarctic forest which tapers northward to the treeless tundra, home of the arctic fox and hare, summer home of caribou. Some maps mark the tundra by the uninviting name of Barren Lands, but to those who know it well it is alive with flora and fauna of its own.

Immediately south of the Precambrian region is the commercial forest region where sandy shored lakes have softer outline, where trees of the forest rooted deep in the soil stand taller, are greater in girth. Here the engineering beaver would best like to work—were it not for men with steel traps. In the commercial forest region, where evergreen white spruce (*Picea glauca*) is the leading lumber tree, the South Saskatchewan River meets the North Saskatchewan River, joining to form the broad Saskatchewan River flowing easterly towards Lake Winnipeg and helping to make muskrat country all the way to the salt water sea that is Hudson Bay.

In October's final days, or early in November, after the last yodelling loon has flown south, while days are shortening and nights grow longer, lakes begin to freeze over. Soon, riding an arctic gale, comes drifting snow to stay for six months or more. The fisherman has put away his outboard gasoline-powered freighter canoe. He unchains expectant husky dogs, hitches them to the toboggan for a survey of the winter scene. Restlessly shifting Northern Lights glow brighter beneath glittering stars. Great herds of barren-ground caribou migrate south to winter pasture in Saskatchewan's Precambrian region. Timber wolves howl the call of the hunting pack. And aircraft, now on skis, may not again revert to pontoons until June of next year.

While boundaries of the Province of Saskatchewan are arbitrary political delineations, indicated by parallels of latitude and north-south meridian lines, without basis in topographical fact, there are geographical differences in the interior of Saskatchewan's north as compared with the northern areas of neighbouring Manitoba and Alberta provinces. Before the internal combustion engine took to wings, Alberta's north was more accessible than the greater part of Saskatchewan's north. Alberta's north begins near the source of the great and navigable Mackenzie River system flowing down-north on through the Northwest Territories to Aklavik and the Arctic Sea. Manitoba has an abbreviated south-north navigable river and lake system which veers northeast to empty into Hudson Bay, that vast indentation of the North Atlantic.

Northern Saskatchewan's two main river systems, the Saskatchewan and the Churchill, flow east across the province. Comparative waterway factors had a bearing on pre-aeroplane exploration 250 years before there was a Province of Saskatchewan. During the fur trade era, the Saskatchewan River with its relatively swifter current (from the Cree Indian, *Siska-chew-un*—fast-flowing) meant harder work for the sinewy voyageurs and stocky York boatmen than did the principal Alberta and Manitoba systems.

Sketch map showing principal geographical regions of Saskatchewan.



Fur Empire

While much of the fur empire area remained inaccessible until the advent of the aeroplane, the rivers of northern Saskatchewan served as highways for traders penetrating the northwest as far as the Slave River country. Traders brought fur-laden canoes over the six-thousand-mile route to Canada's embryo metropolis, Montreal. The first Europeans to enter the area (which became northern Saskatchewan when the province was formed in 1905) were servants of the Hudson's Bay Company on exploratory missions, and independent free traders and explorers. The Hudson's Bay Company designated the Montreal-based free traders as "The Pedlars" poaching on what "The Company" regarded as part of its exclusive domain, an immense, vaguely defined area granted the Adventurers of England under the hand and seal of King Charles II.

In this early period of far flung fur empire there were important differences in the trading techniques of "The Company" men responsible to London, England, and "The Pedlars" financed in Montreal, Canada. While Hudson's Bay Company servants did travel inland from their fur forts on Hudson Bay, they penetrated the interior not directly to trade with the Indians but to urge yet more natives to bring furs to the company's forts at salt water.

As it was impossible to persuade the Indians to carry furs all the way to Montreal when traders on Hudson Bay were many miles nearer, "The Pedlars" journeyed far into the forests of the northwest for on-the-spot trade.

Unable to base themselves on Hudson Bay in defiance of the British Navy, and thus precluded from the advantage of short-route transportation to Europe in sailing ships, "The Pedlars" introduced inexpensive West Indies rum as a staple product of barter in the fur trade. Easily transported in kegs and expanded with river and lake water at the trading sites, this medium offset the commercial disadvantage of distance from Montreal-based operations.

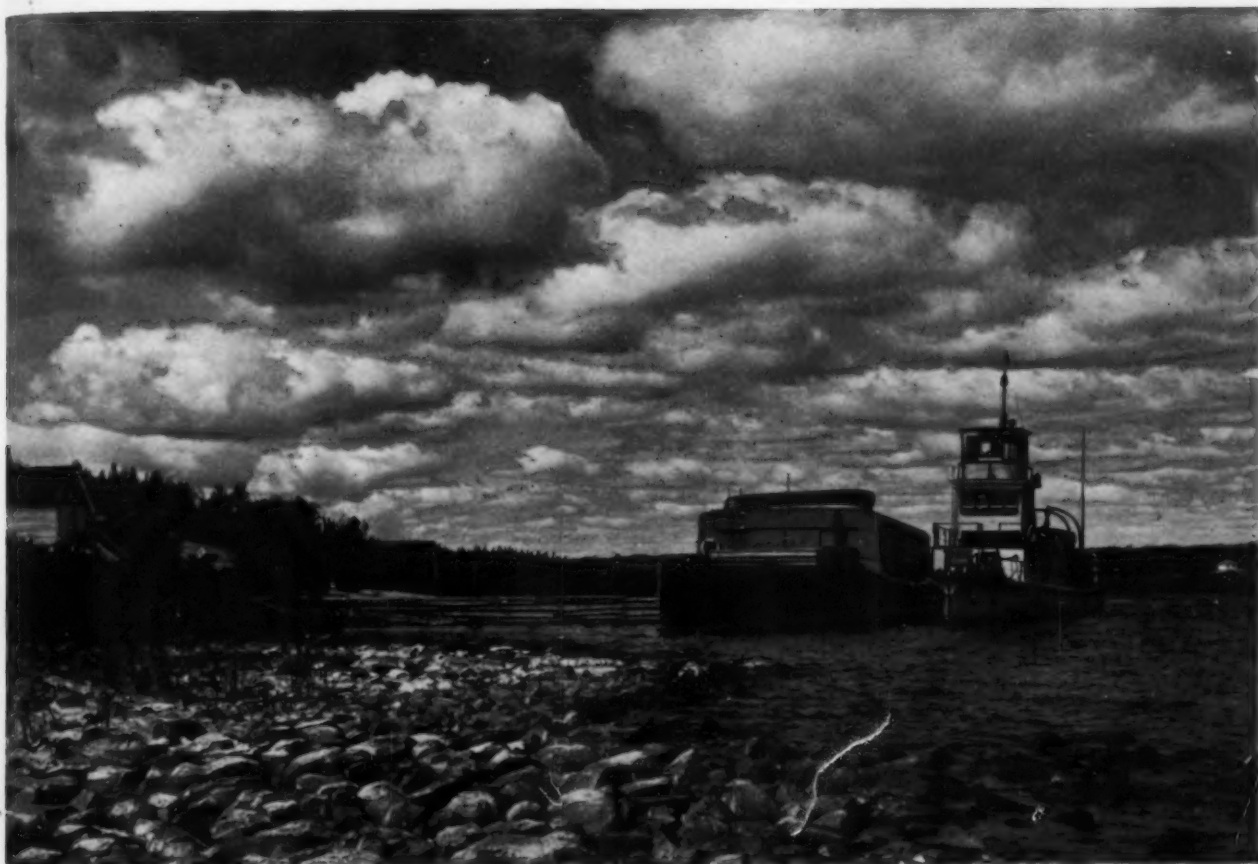
While Hudson's Bay Company servants

were almost entirely English-speaking, The Pedlar fur brigaders were both French-speaking and English-speaking. Scotsmen largely provided the initial drive and organization, while free-living, rugged French-Canadians, mainly *coureurs de bois*, were the voyageurs who expertly handled the paddles in the great freighter canoes.

Many "Pedlars" subsequently became partners in the North West Company formed in 1784 and financed by Montreal merchants, thus intensifying fur trade rivalry. Conditioned by long canoe voyages on river and lake, arduous portages and the necessity to live off the country, men of the voyageur brigades developed amazing daring and hardihood and accounted for many of the more spectacular feats of exploration in the Canadian northwest. At this time Saskatchewan's water routes formed part of the great trans-continental river and lake highway—the only highway then available. Inextricably linked to the business of an expanding and fabulously profitable (for the traders) fur trade with the Indians of the northwest, was the persistent dream of, and recurring search for, a short navigable water trade route to the Orient.

Lacking the provincial boundaries of today, the trader and explorer measured the country in terms of water routes. North West Company fur brigades re-crossed Saskatchewan's north on the long journey from Great Slave Lake back to Montreal. From Alberta they entered Saskatchewan's Precambrian region, forcing their fur-laden canoes up the Clearwater River. Portages and lakes took them southward to the Churchill River. When they left the Churchill River at Frog Portage, the Sturgeon River and small lakes helped them on south to the Saskatchewan River flowing through the commercial forest region towards Lake Winnipeg in Manitoba.

Unlike Europeans who introduced liquor to Indians, the natives had not been conditioned to potent alcoholic drink. In Europe, during many years prior to discovery of distillation, wine was fermented, beer brewed. North American Indian men and women, abruptly exposed to distilled spirit, were



The Pelly Lake, Hudson's Bay Company boat that serves the communities scattered round Lake Athabasca.

adversely affected. The *voyageurs*, until they took to their paddles again, seldom were anxious to see the women depart, but there were instances when drink-craved natives stayed on at the trading place to pester the fur brigades beyond endurance.

Accumulated instances led to violence on the Saskatchewan River system which in 1779 culminated in a gun battle at Eagle Hills. Hostility of the Indians gained momentum, spread throughout the fur country to an extent whereby "The Pedlars" welcomed, at first, the smallpox epidemic of 1780 which decimated the ranks of the natives and drove survivors deep into the forest from where they feared to emerge for trade. The white man's smallpox had proved more devastating than the white man's gun.

The absorption of the North West Com-

pany by the Hudson's Bay Company in 1821 turned the entire fur trade to England by way of Hudson Bay. Trade hostilities ended, clergy of the Anglican Church and priests of the Roman Catholic Church established missions at the trading posts. Thus began a new rivalry, not for the Indian's fur, but for his soul.

The gun and the steel trap of the white man, the rise of the timber industry, the extension of agricultural settlement northward from the park lands farming region, the ravages of forest fires, combined with lack of fur and forest conservation, brought about the decline of the fur empire which had at one time embraced an area bounded by Hudson Bay, the Rocky Mountains and the Arctic Ocean—a colossal land with Saskatchewan's North the central part.



*Cutting spruce,
the main timber
tree of the prov-
ince.* DNR



*Logging-camp
crew at work load-
ing poles.* NFB

Timber

It was on the prairie and open plains regions to the south that the clicking steel rails and humming telegraph lines opened the Palliser Triangle to agricultural settlement. The consequent demand for railway ties, line poles and lumber for farm homes and mushrooming towns caused rapid expansion about 1900 in the timber industry of the north. Yet

today, many a boy or girl of Saskatchewan's north knowing well the aeroplane and radio, has yet to see a railway train or talk into a telephone.

While Saskatchewan's lumber operations could not compare in extent, drama, or commercial opportunity with the preceding era of fur, timber operations were comparable to the fur trade in that neither enterprise

practised conservation. As in the early years of logging elsewhere in the rich-for-the-taking boundless North America, the practice was "cut out and get out". Thus stationary steam driven sawmills, in evidence as late as 1920, gave way to small portable mills more economically operated in the thinning timber limits of the commercial forest region.

Although practically unrestricted cutting of mature timber to satisfy the war effort occurred during the war years, it was recognized that the sacrifice must be made. Once victory was assured it was also recognized that extreme conservation measures were immediately necessary to save the remainder of the commercial timber and place it upon a sustained yield basis.

As a result of the findings and recommendations of a provincial Royal Commission on Forestry, the Department of Natural Resources in 1946 took steps to intensify the implementation of its policy of forest conservation and development. These consisted of increased fire protection and in placing the cutting of white spruce saw timber on a quota basis. Thinning of immature stands was carried out to bring about better development; the disposition of spruce and pine saw timber was regulated by the Saskatchewan Timber Board, which developed

contract logging and manufacturing practices and orderly marketing; more remote areas of saw timber were brought under production by new roads; all saw timber was marked for removal; publicity to prevent forest fires was stepped up; waste of cut timber was eliminated by full use of by-products; utilization of different species was encouraged.

Since then the more important stands of white spruce have been operated under management plans to provide for orderly removal, over a fixed period, with the assurance that the areas will continue to yield a crop in perpetuity.

By these means, the sawmilling industry, while somewhat curtailed, is protected and indefinitely prolonged. And the forest inventory now in progress indicates sufficient material for development of a major pulp mill.

While Saskatchewan continues to be the greatest wheat raising province, more than 35 per cent of its total area is occupied by commercial forest which is capable of sustaining extensive wood-using industries of various kinds, in addition to saw timber. Two plywood factories, using aspen, are in operation at Hudson Bay and Prince Albert and several more are being considered.

High utilization mill, Big River. A crown owned and operated mill, providing annually up to 6,000,000 f.b.m. of spruce saw timber.





Smoke jumpers dropping from the sky to fight a forest fire. Saskatchewan has the only forest protection smoke jumping service in Canada. During 1950 spring and autumn fire seasons, the main crew was stationed at Prince Albert, using a Norseman aircraft on wheels for jumping and cargo dropping. In summer, as fire hazard moved north, the men went north to Lac la Ronge where they used a Norseman on floats, with a hole in the floor between floats, for jumping.

D. W. Kelly

Smoke jumper parachuting to open space of forest floor in course of fire-fighting training. Smoke jumpers answer the call to forest fires in remote areas where they can reach the job before the arrival of fire-fighting trucks and bulldozers, or where mechanical equipment cannot penetrate by land.

D. W. Kelly



Canso PBY-5A flying boat operated by Saskatchewan Government Airways. This aircraft hauls fresh-caught fish from northern lakes to railheads for re-shipment in railway refrigerator cars bound for Chicago and New York markets.

DNR

Commercial Fishing

While many trappers are of Cree or Chipe-
 wyan origin, the combination fisherman and
 trapper is often of Scandinavian background.
 Of the more than forty fish species found in
 the cool, clear northern lakes, whitefish, lake
 trout, pickerel and tullibee have most com-
 mercial value. The total production in nor-
 thern Saskatchewan last year was 8,731,292
 pounds produced by some 1,900 fishermen.
 Production was expected to increase to ap-
 proximately 12,000,000 pounds by the spring
 of 1952. Of the many lakes that are fished, the
 following are the chief producers: Athabasca,
 Reindeer, Wollaston, Peter Pond, Primrose,
 Doré, and the chain of lakes in the Churchill
 River system contiguous to Lac la Ronge.

*Loading frozen lake trout on snowmobile at
 Lac la Ronge.*

SFB



In recent years there has been a marked increase in the demand for filleted fish. Consequently the industry in northern Saskatchewan has begun to focus on communities at Buffalo Narrows, Primrose Lake, Doré Lake, Lac la Ronge, Reindeer Lake and Beaver Lake, where crown and privately owned filleting plants have been established. Fish are taken out by air or truck to railroad, for delivery to eastern Canada, New York, Buffalo, and Chicago.

Wild Fur

Beaver, muskrat, weasel, mink and fox are among leading revenue producers for the trapper. Fur conservation is on a co-operative basis carried out by resident-trapper elected councils acting under Saskatchewan Government legislation. Representative five-member councils must include Indian, Métis and white trappers when individuals of the three groups are trapping in an area. The Saskatchewan Fur Marketing Service, only government-operated fur agency in North America, markets pelts at Regina by auctions to which buyers come from as far as Montreal and New York. The trapper-endorsed government agency charges the trapper five per cent commission for grading and selling his fur. Local fur dealers also use the marketing service to dispose of their purchases from trappers.

Sport Fishing

Famous in the lore of sport fishermen is the fighting arctic grayling. Another favourite is the lake trout, weighing up to forty pounds.

The arctic grayling, found by the shores of larger lakes and in tributary streams, is an excellent fly fish to be taken throughout the summer season. Abundant along the

Fond-du-Lac and Cree Rivers, they vary in size from one to four pounds, while the average catch is about one and one-half pounds. American anglers and sports publications have rated Saskatchewan's northern fly fishing "... the greatest available on this continent". Each summer season more fishermen drive or fly to Lac la Ronge, end of the northernmost automobile highway. Hundreds of unfished lakes, readily accessible by aeroplane, contain trout, great northern pike, and pickerel. Cabins, motorboats and guides are available at island-studded Lake la Ronge.

To improve angling and conserve resources for future generations, the Department of Natural Resources each year conducts scientific studies of the more important water bodies of Saskatchewan. These studies are carried out by parties of graduate and undergraduate biologists under the supervision of Dr. D. S. Rawson of the University of Saskatchewan.

Summer Resorts

Outstanding summer resort is Waskesiu Lake in Prince Albert National Park, on the highway from Prince Albert to Lac la Ronge. With swimming, motor-boating, sailing, fishing, dancing, roller-skating, golf—and watching the brown and black bears feed on the dump—Waskesiu offers a varied holiday for the entire family. On the eastern edge of the province is Beaver Lake, with its bright sand beaches, rocky shores and ship-like evergreen islands. These and other resort lakes can be reached by highway. For those who would plan a holiday farther north in the vastness of the Precambrian region, aeroplane service to wilderness cabins is available.





Grayling fly-fishing in Fond-du-Lac River, within 50 miles of the Northwest Territories. The arctic grayling is also found in abundance along the rocky shores of the Cree River. Fish vary in size from one to four pounds, and are excellent eating. DNR

Right:—Arctic grayling, like rainbow trout, rises to the fly, jumps clear of the water. United States sport fishermen become increasingly enthusiastic about "the grayling". Bill Wolfe, of Sports Afield rates northern Saskatchewan fly fishing "... greatest available on this continent." DNR



Left:—Aquaplaning on Lake Waskesiu. SFR



Saskatchewan Government Airways airport dock, on the North Saskatchewan River at Prince Albert. NFB



The Saskatchewan Government radio station at Prince Albert. This is the "nerve-centre" for northern Saskatchewan.

Saskatchewan Airways

Tourist and holiday air traffic continues to increase while accelerated mineral search and development demands accompanying airways expansion. The Saskatchewan Government Airways was formed in 1947 to assist development of natural resources, at a time when one small commercial company only was in operation. This company, desirous of selling out, was purchased by the provincial government. To satisfy the increased demands for flying fresh fish to refrigerator cars at railheads and for air travel by prospectors, sport fishermen, tourists and mining personnel, new flights were added. By 1952 the service was using twenty aircraft ranging in size from Stinsons to the Canso PBY5A. While most aircraft are on pontoons in summer and skis in winter, the provincial Department of Natural Resources has constructed landing strips at Lac la Ronge and Stony Rapids (both permanent bases) and at Isle à la Crosse and Buffalo Narrows. At Prince Albert the Saskatchewan Government Airways operates an approved service and repair shop also available to private and commercial aircraft owners. Held in high regard by the people of the north is the air ambulance service whereby accident and sickness cases requiring immediate hospitalization are flown to hospital for a flat fee of \$25, regardless of distance. Saskatchewan Government Airways bush pilots, flight engineers and ground crews have justifiable pride in their exacting work and long-term safety record.

Radio Communication

Linking together remote settlements of Northern Saskatchewan is the Radio Branch of the Department of Natural Resources. Radiotelephone has, since the mid-nineteen-forties, become indispensable to government and other agencies. This service, together with the aeroplane, has helped to save many lives. In 1952 Saskatchewan's Natural Resources Department operated 310 two-way radio sets throughout the north, as compared to 62 in 1945. Seven of these are key monitor stations, situated at Goldfields, La Loche, Stony Rapids, Lac la Ronge,

Meadow Lake, Hudson Bay and Prince Albert. All messages from outlying areas are funnelled through the nearest key stations.

Prior to World War II, the radio equipment operated by the department required qualified telegraphers. Switching to radiotelephone, as telegraphers were absorbed into the armed forces, radio operators became enabled to communicate by voice in place of the Morse code. The director of the Radio Branch, assisted by five skilled technicians, maintains a self-contained construction and repair workshop at Prince Albert.

Radio sets constructed and operated by the branch vary from the "type 10" used for monitor stations and the "6M" mobile sets used for vehicles to the "TM's" mounted in aircraft. In all, the branch puts out eight standard types of radio, all designed for a specific purpose in the pattern of northern development. Mobile sets have an important place in the department's forest fire detection and control program. A policy of renting radio equipment to people and organizations not served directly by the department's radio system proves valuable to prospectors, mining companies, trappers, logging camp and tourist resort operators. This is the wireless party-line telephone of the northland.



A Department of Natural Resources radio operator on duty.



Agriculture settlement creeps northward. Here, north of Prince Albert, is shown the dividing line between farming community and commercial forest region.

NFB

Climate

July is usually the warmest month, January the coldest. July average temperatures vary from 62 degrees Fahrenheit between Prince Albert City and Prince Albert National Park, to 57 degrees at parallel of latitude 60° N., boundary between Saskatchewan and the Northwest Territories. There is much sunshine and while long summer days are warm, nights are invariably cool. January average temperatures vary from 5° to 10° below zero (F.) in the commercial forest region, and 10° to 23° below in the Precambrian region, including the sub-arctic tundra "land of little sticks". Lowest temperature recorded is 70° below zero. In contrast, highest recorded summer temperature is 95°. In both winter and summer the air is dry.

Vegetable gardens and flower plots are successful throughout the area despite severe

scarcity of soil in the rocky Precambrian region. Though the growing season is short, the days are long with sunlight, and the many lakes and streams counteract the blight of summer frosts experienced miles south in the agricultural regions.

Mining and Prospecting

Copper, gold, zinc, silver, cadmium and selenium are produced from the Flin Flon mine of the Hudson Bay Mining and Smelting Company. The ore body lies astride the Saskatchewan-Manitoba boundary. Electric power is generated at Island Falls on the Churchill River.

Consolidated Mining and Smelting Company successfully mined gold at Goldfields, on the north shore of Lake Athabasca, until medium to low grade ore and a labour shortage during World War II caused the mine to shut down. Goldfields, subsequently a



Electric power is generated here for the Canadian Government's Eldorado Mining & Refining Corporation uranium project at Beaver Lodge Lake and the Nicholson mine. Originally constructed to supply power for nearby Goldfields, a tunnel was made connecting White Lake (top) with the lower level Wellington Lake. Main reservoir is Tazin Lake not shown in this picture.

Saskatoon Star-Phoenix

Geiger counter in hands of Saskatchewan Department of Natural Resources official testing ore for radioactive signs in Athabasca area. DNR



ghost town, began to revive in 1950 as a development centre of pitchblende ore, source of radium and uranium—and atomic power.

Among the promising mine areas are Lake Athabasca, Charlebois Lake, Sprechley Lake, Rottenstone Lake, Reindeer Lake and Lac la Ronge. Much of the entire Precambrian region has been covered by air-photographs; geological maps, scale four miles to the inch, are available to prospectors. In 1952 prospecting for, and development in, uranium bearing ore held the spotlight, with Saskatchewan's Precambrian region considered the most promising in North America. The Geiger Muller counter—scientific instrument that ticks like a rattlesnake when rock is "hot" with radio-active ore—is standard equipment for the prospector, while an increasing number of fishermen, hunters and far north tourists carry one too—just in case.

The Department of Natural Resources provides trained personnel to assist bona fide prospectors in their work. In February of each year prospectors' schools are held at several centres in the province. Here prac-

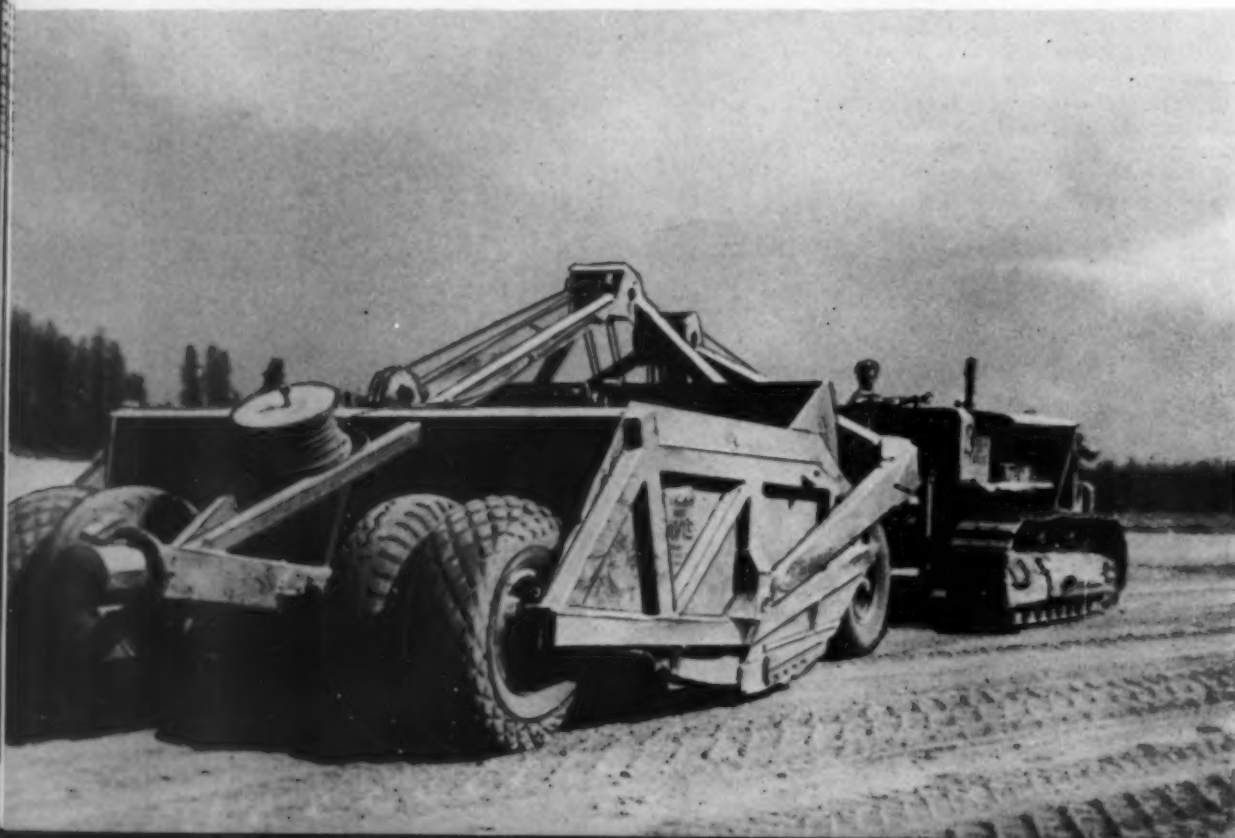
tical field men and geologists impart their combined knowledge to veteran ore-seekers and beginners in the search for the source of a new power that startled a war-weary world on August 6, 1945, when the first atom bomb was exploded over Hiroshima.

Prior to discovery of uranium-bearing ore, the Hudson Bay Mining and Smelting Company's mine and smelter at Flin Flon, Manitoba, was the most outstanding hard-rock project. Up to 90 per cent of ore mined there has come from the Saskatchewan side of the boundary. Copper accounts for about half the production total; gold is second.

Uranium mining is focusing attention on Saskatchewan's Precambrian region. Four major uranium fields have been located: Goldfields, Black Lake, Lac la Ronge, and Charlebois Lake. The Eldorado property, nine miles north of Goldfields, approaches the production stage. The uranium occurs mainly in pitchblende. This is notably the case around Goldfields and Black Lake. However, the discovery in the Charlebois Lake area shows the uranium-bearing mineral is uraninite, a crystalline variety of

Levelling airstrip for uranium project at Beaver Lodge Lake. Heavy equipment was still at work an hour before the first aircraft's arrival from Edmonton.

Jim Wright





Hydro-electric transmission tower at Island Falls, Churchill River, providing power for Flin Flon.

pitchblende. The many types of deposits which occur under diverse conditions would involve detailed geological treatment.

The People

This northland's new community schools—attended by resident children and grown-ups of all racial and religious groups—have been built, equipped and staffed by the Department of Education. The Department of Public Health builds and equips community hospitals in this vastness where the whirl of the aeroplane means to trapper, fisherman, timber cruiser and prospector what the locomotive's whistle meant to the plains and park lands pioneer settler.

Prior to 1945 medical facilities for the care of local people included a Roman Catholic hospital at Ile à la Crosse, a nurse at the Indian Residential School at Beauval, an infirmary in the teachers' residence at Green Lake school, a nurse at the Church of England Residential School at Lac la Ronge and an outpost hospital at Cumberland House. Since 1945 modern hospitals have been built at Stony Rapids, Buffalo Narrows, Island

Falls and a Mission Hospital at La Loche. A children's shelter was established at Green Lake and the hospital at Cumberland House completely remodelled.

In 1945 there were only eighteen localities where any kind of accommodation was available for the education of children. Two of these were organized under the Public School Act. Nearly all the schools were controlled and administered by the Roman Catholic and Anglican churches. There were seventeen settlements where no schools of any kind existed; of 1,164 children under 16 years of age only 596 were attending some kind of school. Eighteen children were taking correspondence courses at home while 568 were not receiving any education. There were an additional 877 children under school age.

By 1952, except for a few places for which schools are planned, all settlements had schools administered by the Department of Education, under the provisions of the School Act, and supervised by the Northern Administrator of Schools. Eleven new school-houses have been built and three remodelled since



Chipewyan Indians preparing meal near Stony Rapids.

SFB



Indians and Metis on shore

1945; 44 classrooms are in operation with an enrolment of 1,600 children. Ten teachers' residences have been built. In some instances transportation is paid for children, and in other cases special grants of 50 cents per day for each outpost child are allowed. Schools are provided with library books and sewing machines. Projection equipment is lent when desired for visual education. In most schools the hot noon lunch has been instituted and is distributed free to all children. Cod liver oil is supplied to those schools which request

it. From these under-privileged backward communities young people are graduating from public schools and are beginning to look forward to high school education.

Prior to 1945 rough estimates existed as to the number and kind of people resident in the northern area. In 1951 the Department of Natural Resources completed population statistics for its Northern Administration District. This division includes the Precambrian area of the province plus a small portion of the contiguous southern

By 1952 schools administered by the provincial Department of Education were available to the great majority of children in Saskatchewan's North, and increasing numbers of parents learnt to read and write at night classes. There are forty-four classrooms in operation, with an enrolment of 1,600 children, in a region whose population is about 9,600. Saskatoon Star-Phoenix

School building at Snake Lake. Since 1945 eleven new schools have been built, old buildings repaired and remodelled, and ten new teachers' residences erected in the north. About 20,000 board feet of lumber were made available by the Department of Natural Resources at minimum cost; local labour was used directed by a carpenter from "outside". SFB





Metis shore of Lac la Ronge.

NFB



Men on beach make smoke signals for ambulance aircraft, after radio message has been sent, giving general location.

NFB

fringe. The figures reveal a total population of 9,657 of which 3,547 are Treaty Indians, 3,580 Métis and 2,630 Whites.

Flying over this great and rugged land of forest, lake and stream, for many miles you see no man down there, no sign of human habitation. And that could be a reason why, when pontoons or skis touch down at an outpost settlement, you are greeted by friendly people: men, women and children whose faces say—even before a word is spoken—"glad to see you".

Music is a common language in Beauval School classroom where Indian, Metis and White boys learn and co-operate. Nondenominational schools, equipped and staffed by the Department of Education, attract teachers with the pioneer urge. While there is a shortage of teachers in agricultural areas of south Saskatchewan, the north has surplus applications. SFB

Saskatchewan's North — a community whose radio brings awareness of a troubled world outside, a people who have come to know the exciting and portentous klik, klik, klik of the Gieger counter in the presence of uranium-bearing ore and who hope, with the rest of the world, that this warning rattle will not conjure up the man-contrived serpent, triggered to strike; but that the atomic energy so born may be used in a search for happiness in a world groping its way.

Children of Saskatchewan's North are encouraged to learn by working with their hands and respond readily to sympathetic teachers. Northern teachers are pleased with friendliness of children, the keen reaction to school work, games, and music of children whose experience and contacts are limited, and the excellent schools and residences. SFB



Quaint London Shops

by E. O. HOPPÉ

MANY OF THE SHOPS which did a flourishing trade from the early seventeenth century onwards right into the Victorian days were family concerns which passed from generation to generation; several of these are still in the hands of descendants, profitably carrying on the trade started by their ancestors. Surprisingly enough, they are not hidden in out-of-the-way nooks and corners but may be found where one would least expect to look for them—right in the very heart of London's throbbing thoroughfares.

These curious survivals of bygone times open volumes of past history. A case in point is the shop operated by the well-known London family of Ravenscourt. For two hundred years the delicate task of crowning wisdom with dignity has been in their capable hands, and no doubt will remain there just as long as the traditional wearing of white horsehair wigs by the legal profession continues—full-

bottom for the judge; and tie-wig or peruke for the barrister.

Around the shop are glass cases containing many well-known judges' wigs, symbols of the majesty of the law. The most curious is that of Lord Erskine, whose name is prominently connected with the trial of Queen Caroline. The story goes that he was once staying at Knaresborough where there was a spring containing carbonate of lime. Jokingly he told a servant to place his wig in the spring. The result was that it became petrified and that Ravenscourt sold a new wig! In spite of this highly mechanized age, every process in the manufacture of these wigs is done by hand—as it was two hundred years ago.

In the reign of Queen Anne a vintner by the name of Berry established himself at the bottom of St. James's Street. You can pass the attractive old shop front of No. 3, with its fine windows and doors, any morning and enter the cool interior of the shop, where you may take a glass of wine of rare vintage from the most renowned vineyards of Sicily or France, of Spain or Portugal, of the Rhine or the Moselle, as men of rank and leisure have done for the past two centuries.

Descendants of the famous vintner still occupy the old premises and have piously preserved many relics of those distant days. Pride of place amongst them is given to a large ungainly balance which has a seat on one side for the convenience of Berry's customers wishing to be weighed. Portly gentlemen of the Regency period, strolling towards St. James's, would halt at Berry's Wine Shop and solemnly seat themselves on the scales while a solicitous attendant noted the noble patron's weight, and recorded it in the old ledger which goes back to 1765, earlier ones having been destroyed. Whether their bulk, which would be rather alarming according to present standards of physical

This wigmaker's shop has been operated by the Ravenscourt family for over 200 years.





Interior of Fribourg's ancient tobacconist shop in the Haymarket; it can lay claim to having supplied "Royalty and Quality" with snuff and tobacco for nearly two-and-a-half centuries.

fitness, affected the customers' wine order is not recorded. But in well-worn ancient ledgers over 25,000 weighings were recorded, including those of kings of England and France, Lord Byron, Charles Lamb, Tom Moore, Charles James Fox, as well as Beau Brummel, and a host of dandies and "fashionables" from the later decades of the eighteenth century till early Victorian days.

A few paces away in this same fashionable quarter is a hat shop, the windows of which are rarely re-dressed. It is that of James Lock & Co., which dates back to about 1700. Time-mellowed examples of the hatter's art of two hundred years ago are displayed here, and at a glance one is transported to the days of hunting parsons, when the hale and hearty vicar of the parish in his beribboned topper could be seen galloping with the hounds at every meet.

When Fribourg's little windows in the Haymarket were first put in, about 1720, wealthy and fastidious society snuff-takers were adopting the fashion of using different snuffs for different hours—in much the same way that fashionable women in these days use different perfumes to suit each change

Suits of armour are still made by hand in a London armoury shop owned by Mr. S. Rex.



Berry's Wine Shop boasts a large, unguainly pair of scales, maintained since the time of Queen Anne for the convenience of customers. A record of distinguished patrons' weights dating back to 1765 is extant.

of dress. Each blend of snuff was kept by the user in a small box of decorative design. Snuff has been replaced by tobacco packed in beautiful old jars, which are the envy of



Right:—A litho-stone in the toy-theatre shop at Hoxton; from it were printed characters for the play "Black-eyed Susan".

Below:—For nearly sixty years this craftsman has been evolving designs and etching them on sword-blades for ceremonial usage.



The oldest business in the City is that of Davison, Newman & Co., now in Creechurch Lane, Leadenhall Street, but until 1890 at 44 Fenchurch Street, where a grocery business was founded in 1650 by Daniel Rawlinson, father of a famous Lord Mayor, friend of Pepys

and founder of Hawkshead School at the "Sign of the Crown and the Three Sugar Loaves". The firm is still carrying on and among its customers are some belonging to families who have dealt with it since 1754. There are some very old relics, including tea-canisters and an ancient register of slaves working on the firm's sugar plantations in Jamaica. Among the chests of tea shipped to Boston in 1773 and thrown into the harbour by the Colonists were some sold by this famous grocery business.

connoisseurs. The original front of the shop with its graceful bow-windows and panes of bulging glass provides a very fine example of what was once a common feature of the better-class shops in the streets of old London.

Who buys armour in these days? And who would expect to find a flourishing armourer plying his trade in London? Museums, no doubt, require an occasional repair to the armour in their collections, and the services of a skilled armourer are then in demand; but this little shop sells whole suits of armour of different periods, correct in every detail. Perhaps the newly rich come and order half a dozen suits of armour to give ancestral dignity to their palatial homes, and doubtless an occasional order arrives for armour for a historical film or stage play; but all these would surely scarcely warrant an armourer in twentieth-century London, and one can only surmise that some people, on returning home at the end of a busy day, don armour where more ordinary folk would put on a dinner jacket!

Quaintest of the many old shops of London is—or to be more precise, was, until very recently—a little shop in Hoxton where poverty dwelt on familiar terms with the local population. An atmosphere of make-believe pervaded the tiny room where toy theatres printed from old copperplates and hand-painted in crude colouring were sold. Hoxton children, though thoroughly cinema-conscious, pressed their noses flat against the dark little windows to see more clearly the alluring puppets and pictures which Robert L. Stevenson and Charles Dickens so often

handled. Artists and writers from all parts of the world found their way to this link with past theatre history. Old Mr. B., in whose family the business remained for over a century, died, but his two daughters carried on the old process, taking the transfer from the plates, and colouring the sheets, which were "Penny Plain and Two-pence Coloured". Many of the scenes and characters were from plays two or three hundred years old, as actually played in the contemporary theatre, and a little book of words was supplied with each stage set.

The tiny figures, coloured, cut out and mounted on cardboard, slid into their places as a result of manipulation from the bottom of the stage. Scenery and side wings were let down from the top, and in front were footlights designed for the old-fashioned candles or oil lamps, although many enthusiastic customers inserted tiny electric bulbs.

But although connoisseurs shared the secret of the little shop's treasures with appreciative friends, the trade was limited, and a few extraneous commodities crept into the windows to please the taste of the younger generation. The last theatre curtain was, alas, rung down about two years ago when the goodwill of the shop and its fascinating contents passed into the hands of Mr. Alan Keen, the well-known publisher and antiquary.

Odd and queer trades are also carried on in many of the little old-fashioned houses in the backwaters of London. In one of the quiet, narrow streets of Clerkenwell one can find a "beater" hammering gold foil to tissue-paper thinness, while in the Waterloo Road the "Tattooshop", which claims to be known to sailors from almost every part of the world, plies its trade.

But perhaps the strangest of all shops in London is a tiny place in Billingsgate, down London Bridge way, where there is room for only two people at one time; here the famous leather hats worn by the fishporters of Billingsgate, are made. These "billycocks", said to be modelled on the helmets worn by bowmen at the battle of Agincourt, weigh about five pounds and, being practically indestructible, last a lifetime.

"Billycocks" are made in this little shop for sale to Billingsgate fish porters.



Above:—The tattooist's shop in Waterloo Road is known to sailors from all over the world.



Haida Carver of Argillite

by LYN HARRINGTON

Photographs by RICHARD HARRINGTON

LOUIS COLLISON, sixty-year-old Haida Indian of Skidegate Mission in the Queen Charlotte Islands, British Columbia, is the last of the skilled carvers of argillite. This exacting craft, locally known as "slate carving", has been handed down from father to son amongst the artistic Haidas for a century and a quarter, but is now nearing its end.

To keep the art from perishing, the Canadian Department of Indian Affairs asked Mr. Collison to teach it to the youngsters

of the Skidegate Mission School. He agreed, but shrugs his shoulders over the result; for school-children regard his instruction as "just another lesson".

The skilled, absolutely symmetrical carvings turned out by Louis Collison are the result of apprenticeship under his father. "He was good carver," says Louis, "but his father better." As a lad he learned his craft the old way, and he comes of a tribe outstanding for its culture, as for its prowess in war. Like his forefathers, he fishes in summer, carves in off-seasons.

Argillite carvings were first made around 1820, as souvenirs for sailors on the trading ships and for barter with the mainland tribes. Actually they had little practical use, although the ornate pipes and elaborate bowls and plates were sometimes employed on ceremonial occasions. The finest of the old pieces may be found in museums, particularly those of the West Coast.

Subsequently the carvers began to concentrate on totem poles, and this crystallized the totem-pole design. Often these miniatures were made as models for the lofty poles of red cedar. Occasionally a young man of the tribe today turns out book-ends or ashtrays of argillite, but these are much inferior in design and craftsmanship to the work of a previous generation.

Argillite carving is exclusively Haida in origin, for only one deposit of the carbonaceous shale, commonly labelled "slate", is known along the coast. This deposit, half-way up the Slatechuck Mountains at the foot of Skidegate Inlet, is reserved for the natives. A tedious journey up the overgrown trail, littered with the debris of logging operations, is necessary to reach the deposit.

Left—Louis Collison, elderly Haida of Skidegate Mission in the Queen Charlottes, learned the art of carving argillite from his father; he is unrivalled in his craftsmanship.





Above:—The argillite is soft enough to be cut with an ordinary carpentering saw. Collision saws a piece to the approximate size of the carving he plans.



Above right:—The dull quality of the rock shows in this roughed-out carving of a miniature totem pole. Home-made tools nevertheless produce work of great beauty.



Right:—A mixture of vaseline and graphite from a logger's pencil is rubbed into every line of the carving to produce its characteristic ebony hue.

Below:—A shoe-brush brings up a gloss on the carved argillite. The remarkable symmetry of the miniature is here evident.



HAIDA CARVER OF ARGILLITE

Crow-bar, pick and shovel must be packed in, and out again with the heavy rock.

The rock is soft enough to work easily when first dug; but the water content evaporates quickly, so that it becomes flinty and chips easily. Collison wraps his block in damp cloths on the return trip, then coats it with glue, and finally buries it in the backyard so that it remains workable.

He saws off whatever he needs with an ordinary hand-saw, and carves, scrapes and chisels with home-made tools. His design is almost certain to be one of the old legends of his tribe. A favourite is the tale of how

Raven stole the stars, then the moon, and then the sun, to bring light to the dark earth he had created. Collison's work has a purity of design of which the long-gone masters could have approved.

After the finished carving has been sand-papered to a satiny smoothness, a mixture of vaseline and graphite is rubbed into every crevice, and a shoe-brush is then used to produce a characteristic high lustre. The shiny jet-black carvings sell at around \$2.50 per inch. Some customers have been waiting for years to obtain a piece—but, like most good craftsmen, Louis won't be rushed!

The twin peaks of the Slatechuck Mountains rise at the foot of Skidegate Inlet. Halfway up the slope is the only deposit of argillite known along the coast; this "slate" is reserved for use by Indian carvers.



Canada's First Government House

by JOHN MACKENZIE

WHEN THE UNION of the provinces of Upper and Lower Canada was effected in 1841, Kingston was chosen as the capital, principally on account of its central location between Montreal and Toronto, but also because of the fine limestone buildings available for government use. One of these was Alwington House, which was occupied by Lord Sydenham and thereby became the first Government House of the united provinces.

The house was designed and built in the 1830's by the Hon. Charles Grant and his wife, Caroline Coffin, daughter of Lt.-Gen. John Coffin. It was called "Alwington" after the Coffin homes in England and Massachusetts.

Charles Grant was descended from the famous Le Moyne family of Montreal through his mother and on her death, in 1841, became the 5th Baron de Longueuil. The title goes back to Charles Le Moyne who was with Frontenac at the founding of Fort Frontenac (Kingston) in 1673. Le Moyne was made Baron de Longueuil by King Louis XIV of France in 1700 for the distinguished service of both himself and his sons, the title to descend to "his heirs both male and female forever". The title Baron de Longueuil was one of the few French titles in Canada to be recognized by the British Crown.

Alwington House is built of cut limestone in the classical style of Georgian-Colonial architecture. The limestone came from the



Kingston Penitentiary quarries (a short distance to the west of the property), much of the labour being supplied by convicts working under the supervision of skilled Scottish stone masons. Kingston was particularly fortunate in having many good stone masons during the early part of last century. One of them, Alexander Mackenzie, became the first Liberal Prime Minister of Canada in 1873.

In a letter written from Alwington House, June 5th, 1841, Sydenham said:

"The quiet of this place is delightful. I have a beautiful view of the lake and grounds leading down to it." And again in a letter dated June 12th, 1841, he said: "The house I lodge in is really a very nice one—or rather will be when finished, which will just fit the arrival of my successor . . ."

Lord Sydenham died at Alwington on September 19th, 1841, and was buried in St. George's Cathedral, Kingston. There is a brass plate in the centre aisle of the cathedral marking the place where he lies.

The succeeding governors, Sir Charles Bagot and Sir Charles Metcalfe, subsequently occupied Alwington. After the capital of Canada had been removed to Montreal in November 1844, however, the Grant family returned to their house and lived there until 1858.

Alwington is still one of the finest private houses in Kingston and the view, looking south, of the grounds leading down to the lake with the long flagstone walk bordered by irises is a sight to remember.

EDITOR'S NOTE-BOOK**Honorary Patron**

It is a great pleasure to be able to inform our members that His Excellency the Right Honourable Vincent Massey, C.H., Governor-General of Canada, has graciously accepted the office of Honorary Patron of the Society. This appointment of Canada's first native Governor-General carries on a tradition established with the founding of the Society in 1929, when the then Governor-General, the Right Honourable the Viscount Willingdon, became its Honorary Patron.

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Contributors

Norman L. Nicholson is head of the Canadian geography research program of the Canadian Government Geographical Branch. Dr. Nicholson was formerly lecturer in geography at the University of Western Ontario and he served as meteorologist with the British Air Ministry, spending some time in Norway.—Jim Wright is editor of *Union Farmer*, published by the Saskatchewan Farmers' Union, and author of *Slava Bohu*, a history of the Dukhobors which won the Governor-General's medal for literature. He has made a study of the prairie and plains regions of Canada.—E. O. Hoppé has contributed much to the evolution of photography as an art. German-born and European-educated, Mr. Hoppé lives in England and now devotes considerable time to writing.—Lyn and Richard Harrington are married writer and photographer team, well known for their portrayal of the Canadian scene from coast to coast.

* * *

Scholarship Awards

At the last meeting of the Board of Directors the names of the recipients of the Society's 1952 national scholarships in geography were announced. The six students who receive the awards for study at Canadian schools of geography are: Keith G. Bain of Hamilton, Ontario, who will use his scholarship towards the completion of his B.A. degree at McMaster University.

Eric H. Brown of London, England. Mr. Brown is a graduate of London University who will continue his studies at McGill Geography Summer School. Barbara L. Fenton of Tunbridge Wells, England, who obtained first-class honours in geography at Cambridge will also do post-graduate work at the McGill Geography Summer School. R. Spencer Inch of Hampstead, Queen's County, New Brunswick; Mr. Inch is a graduate of Mount Allison University who now teaches in Ontario. He will take his scholarship at the University of Western Ontario Summer School in London. John R. Main of Winnipeg, Manitoba, who will attend the McGill Geography Summer School at Stanstead; Mr. Main is a graduate of the University of Manitoba and a teacher of geography. H. A. Smith of Toronto; Mr. Smith is a graduate in Honour Geography from the University of Toronto, where he will use his scholarship in post-graduate work.

Twenty-two applications for the Society's scholarships were received and the Scholarship Committee reported that selection was difficult because all the candidates were of such very high calibre. We offer our congratulations to the successful candidates and our good wishes to them and to those for whom there were not enough awards to go round.

* * *

AMONGST THE NEW BOOKS**Ecological Animal Geography**

by W. C. Allee and Karl P. Schmidt

(John Wiley and Sons, New York, \$9.50)

It is always a pleasure to read a new book on animal geography partly because such books are so few and far between and partly because the subject is so full of fascination. With *Ecological Animal Geography* the pleasure is enhanced by the fact that the style makes the book easy to read and technical terminology is reduced to a minimum. Yet, since the book is based on *Tiergeographie auf oekologischer Grundlage* by the late Richard Hesse it also has the advantage of interpreting into English a wealth of authentic source material first published in foreign languages.

The original author felt that zoological research had resulted in an oversupply of "animal pelts and alcoholic material" and that what was needed were observations on the relations between animals and their environ-

ments. Thus the book considers animals in their dependence on the conditions of their native regions and their adaptation to their surroundings. It is divided into four parts. The first deals with the ecological foundations of zoogeography treating such topics as barriers to distribution and means of dispersal, the effect of geographic isolation and the influence and extent of range.

The remainder of the book "gives approximately equal space to the animal life of the sea, of fresh water, and of land". Each part follows essentially the same approach which is to begin with the systematic and end with the regional aspects. Thus Part 2 deals with such topics as the physical conditions of the ocean and the chemistry of the sea and ends with the geographic divisions of the animal communities of the sea. These divisions are necessarily broad — tropical marine communities, polar marine communities and the communities of seas, bays and gulfs. That ecological animal geography is a young science is borne out by the fact that "only a few seas have been adequately investigated as yet". Of these, the Mediterranean and Baltic are considered as examples.

The distribution of land animals begins with a consideration of the effects of humidity, temperature, light, pressure, winds and soil on animals. Then forest, grassland and desert communities are described with special chapters on such subjects as Arctic and Alpine fauna and island communities. This section, and the whole book, closes with an up-to-date, and what is at first sight, an unexpected chapter on the effect of man on the distribution of other animals. This deals with deforestation, controlled forests, orchards, gardens and parks, buildings, pollution of streams, the spreading of disease and conservation, with a special section on such problems in tropical regions.

This is a scholarly but by no means dull book. Among its pages will be found, for instance, an explanation for the £20,000 fishing expedition to Hudson Bay which obtained only three fish!; a reason for the brittleness of bone in many Norwegian cattle and a reason for muskoxen having short legs, thick necks and almost invisible ears!

NORMAN L. NICHOLSON

* * *

The British Commonwealth

by L. Dudley Stamp

(Longmans, Green and Co., Toronto, 1951, \$1.80)

In this book, Professor Stamp has laudably endeavoured to "look at the world from the viewpoint of" those parts of the Commonwealth which are not yet completely self-governing. Since the book is, therefore, primarily a geography of political areas it is unfortunate that the political status of these areas is not clearer, if, indeed, it needed to be included. The wide interpretation of the 1931 Statute of Westminster and the inclusion of the Republic of Eire on maps entitled "The British Isles" are but two of the debatable points in this connection.

It is also surprising in a book published in 1951, to find that while Canada is described in some detail, a quite separate section is labelled "Newfoundland" and even it is concerned mainly with the island of Newfoundland. The fact that the Province of Newfoundland consists of an insular and a continental portion, like the Province of British Columbia, is not made clear. What is called "General map of Canada" (but actually excludes almost all of the District of Franklin) adds to the confusion. It shows Labrador as though it were one of the Provinces or Territories and the island of Newfoundland as though it were a city like Montreal or Calgary. The same map also names Churchill as Ft. Churchill. The map of farming in the Prairie Provinces is well executed however, but why Battleford is shown as one of the six main cities while much more important centres such as Moose Jaw, Prince Albert, Medicine Hat and Lethbridge are omitted, is a mystery.

This book is not likely to give Canadian school children any information on their country which has not appeared in Dr. Stamp's earlier works. But it will give those interested some readable accounts, often with maps and good pictures, of countries of increasing importance such as Ceylon, Malaya and Nigeria as well as little known parts of the globe like Malta, the Cayman Islands, St. Helena, Mauritius and the Tonga Islands.

NORMAN L. NICHOLSON

* * *

Weathercraft

How to Make and Operate Your Own Weather Station

by Athelstan F. Spilhaus

(Macmillan Company of Canada, Toronto, \$2.50)

There are few aspects of the natural environment which influence our daily lives more than the weather and yet, in general, our knowledge concerning it falls into widely differing classes. Either we belong to the small number of professional meteorologists who speak of the weather in terms of the laws of mathematics and physics or we are amongst the majority and speak of it in descriptive terms only as it influences our immediate activities. At best we have to rely upon the professional meteorologist and weather observer for actual measurements of the various elements which comprise the daily weather phenomena.

In this very lucid, clearly-printed little book written by a meteorologist of many years experience (Dr. Spilhaus is Dean of the Institute of Technology at the University of Minnesota) we are provided with the means of measuring the major weather elements ourselves. Based upon scientific accuracy, Dr. Spilhaus reduces the modern science of meteorological instrumentation to such familiar objects as tin cans, scrap wood, eggbeaters, cigar containers, coat hangers and many other easily obtainable and cheap materials. In a matter of seven chapters he shows the amateur weather

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man how to construct, calibrate and operate instruments to measure rain and snow, wind, air temperature, humidity, clouds and atmospheric pressure, clearly illustrating the text with photographs, diagrams and maps.

In conclusion the author sets out the way in which to record the observations obtained and how to use them to forecast approaching weather. Here, indeed, a highly trained meteorologist has been able to reduce his science to simple terms and provide his readers, both young and old, with the basis of a most interesting and valuable hobby—weathercraft. J. D. CHAPMAN

* * *

The Heart of England

by Ivor Brown (\$2.50)

York

by John Rodgers (\$1.75)

South-east England

by Richard Wyndham (\$2.50)

Isle of Wight

by R. L. P. & D. M. Jowitt (\$1.75)

(All by Clarke, Irwin, Toronto)

All four of the above are Batsford books, and all four maintain the high reputation of these publishers for first-class illustrations. They are good photographs, well chosen, which illustrate and do not merely decorate, and they are beautifully reproduced. The success Batsfords have in doing such excellent work at so low a price makes one wonder whether other publishers could not do equally well if they so desired.

Ivor Brown's *The Heart of England* is one of the British Heritage series and is notable for its great diversity of interests: agriculture, industry, education, government, work, play, food, drink, art, and science. The contrast between the old England and the new is well brought out.

John Rodgers' *York* is a book to make any Yorkshireman proud. Intended chiefly for the overseas visitor, it will nevertheless be read with great interest by many others. York is one of the few walled cities left in England and it is by far the most complete. Every period of English architecture is represented here and history goes back to the time of the Romans and earlier. The overwhelming beauty of York Minster dominates many of the photographs.

South-east England by Richard Wyndham is one of the Face of Britain series and deals with an area familiar to thousands of Canadians especially those who were stationed there during the World Wars. Godalming and Guildford, Hythe and Folkestone are names with a fond familiar ring, never to be forgotten. The book tells of dew-ponds and hammer-ponds, place names and pilgrims' ways, with down, and heath, and weald, the Devil's Punch Bowl and Gibbet Hill.

Isle of Wight by the Jowitts is an interesting mixture of history, royalty, and yachting. The island is noted for

its beautiful country houses, its ancient cottages, and its fascinating history. In the case of this book, as in the others of this group, we are grateful to the publishers for a good index, another scrap of evidence which seems to suggest that other publishers could improve their wares if they cared to do so.

DOUGLAS LEECHMAN

* * *

Geography, Justice and Politics at the Paris Conference of 1919

by Charles Seymour

(American Geographical Society of New York, \$1.50)

This twenty-four page booklet is more significant to the world of to-day than either its title or its size would indicate. It is the text of the first of the Bowman Memorial Lectures "a series of lectures, to be delivered annually at various seats of learning in the United States, on subjects to be chosen from the wide range of Dr. Bowman's interests". The author, until recently President of Yale University, examines the extent to which geography, justice and politics entered into the peace conference of 1919.

Although every peace negotiation is inevitably based upon geography, at the 1919 conference, "geography came into its own . . . in the process of educating the statesmen". Thus, President Wilson discovered, through Dr. Bowman, "that there was a great mass of Germans in northern Bohemia"; Lloyd George learned "the location of Teschen and the difference between Cilicia and Silesia" and, "towards the end of the conference the statesmen's interest in and knowledge of maps was sufficient to guarantee a passing grade on a reasonably stiff examination".

Of the overall part which geography played the author maintains that where the geographers were given a reasonably free hand, the Wilsonian program accomplished a high degree of success. "Certain of the larger issues were settled on the basis of purely political interests without regard to justice or geography" and, as far as justice was concerned, "the geographers, themselves, in their own impartial analysis proved the impracticability of fulfilling the justice of Wilson's political and social idealism".

From these experiences the author draws some significant conclusions for the future. He visualizes geography as the bridge between national self-interest (politics) and human justice. He also maintains that the principles that underlie the conduct of a modern peace conference are valid in the day by day conduct of international affairs and that these principles point ultimately towards an adjustment of conflicting political interests. This "adjustment must be founded upon an intelligent understanding of human geography, of the character of the conflicting peoples, the surroundings in which they live, the materials of which they dispose, the natural barriers and communications which divide and unite them. Knowledge of geographical facts and understanding of how to use them are essential".

NORMAN L. NICHOLSON

An Introduction to the Geography of The Canadian Arctic

(Queen's Printer, Ottawa, 50 cents)

This book is the second in the Canadian Geography Information Series prepared by the Geographical Branch of the Department of Mines and Technical Surveys. In accordance with modern usage, the Arctic is taken to be the region north of the tree line, which in Canada comprises about one million square miles. A masterly job has been made of compiling in a handbook of convenient size and low price a comprehensive account of this vast area.

In an introductory chapter Dr. J. Wreford Watson summarizes the significance of the Arctic as a whole and its great strategic importance in this air age, an importance which must necessarily strongly affect Canadian development in the north. Nine chapters then deal with various aspects of the Canadian Arctic, such as physical geography, soils, vegetation, and wildlife, population (white and Eskimo), and settlements, transportation, economic resources, government. One chapter is devoted to exploration, with an annotated chronology covering the years 1004 to 1918. Much history is usefully condensed by six maps of exploration routes.

The specially prepared maps are a valuable part of the book. Folded in, they give fair size and good legibility, particularly as the Canadian Arctic is covered in three sections, northern, western and eastern. It would, however, have added greatly to their clarity (especially in the Western Arctic section) if land and water areas had been distinguished by tinting or screening. Other maps depict relief, geology, distribution of Eskimo population, arctic airways, etc. The book is enlivened by photographs and completed by a bibliography. Altogether the Geographical Branch and Dr. N. L. Nicholson, who supervised the publication, are to be congratulated on the production of a concise, useful reference that should be in the library of everyone interested in the Canadian north.

M. FELTON

* * *

World Resources and Industries

by Eric W. Zimmerman

(Harper & Bros., N.Y., \$7.75)

The first edition of this work has been a classic in its field since 1933. Its reputation arose from the author's "insistence on a balanced consideration of geographical, economic, historical, sociological, technological and political aspects" of resource availability which was a departure from the traditional treatment. Dr. Zimmerman's approach throughout is functional, that is to say he defines resources not as mere raw materials but as raw material plus availability of labour, sources of power and marketing arrangements within a given state of the arts (technology).

The author's appraisal of world resources and industries begins with analyses of the meaning of resources

and the meaning and nature of human wants and objectives. Step by step he ensures that his readers will understand the foundations upon which he wishes to develop his principles. These are exemplified in Part II of the book by detailed analyses of the main resources of agriculture. In this part, the author discusses each of the major food resources, the fibres, trees and tree crops in turn, strengthening his presentation with a galaxy of tables, statistics, graphs, diagrams and superb photographs. Part III, the Resources of Industry, follows a similar pattern beginning with minerals in general. Then energy resources, including water power, are discussed as a prelude to the iron and steel industry, other metals and metal industries and finally non-metallic minerals, other than fuels, and the chemical industry.

The final part of the book, "Resource Problems", is like a considered opinion or verdict which the author states only after carefully presenting his evidence. It is presented under the two headings of "Conservation" and "Resource Adequacy", with their continual references to such equally famous, but more controversial books as *Our Plundered Planet*, *Enough and to Spare*, *Road to Survival* and *Vanishing Lands*.

The breadth of vision of Dr. Zimmermann cannot fail to stimulate the enquiring mind just as the wealth of material he has assembled will be invaluable for the research worker in spite of the fact that it was not his primary intention to "enlarge the body of scientific knowledge", but rather to develop the understanding of interdependence. Hence the social scientist has joined hands with the natural scientist. Graham's *Natural Principles of Land Use* and Klage's *Ecological Crop Geography* are linked with the annual reports of oil companies and the factors affecting the price of hogs to present one of the most vital books of the time. The style of the book, which is scholarly without being dull, adds to its universal appeal.

NORMAN L. NICHOLSON

* * *

Arabian Adventurer

by Stanton Hope

(Ryerson, Toronto, \$4.00)

Small boys have strange ambitions and dream often of a life which they would probably find less appealing in actual fact than in their imagination. They sigh for the life of a sailor, or a cowboy, a prospector, an actor, a whaler, a South Seas trader, a police officer, a horse trader, a gun runner, a pearl fisher, a secret service agent, or an explorer and, sadly enough, seldom attain any of these shining goals. William Richard Williamson or, as he has long been known, Haji Adbul-lah Fadhl az Zobair, strict Moslem and thrice a pilgrim to Mecca, attained not only one of these goals but all of them and a few more. His is one of the most remarkable lives recorded in modern times and the fact that he disappeared from the sight of his countrymen for so many years, only to come once more into sight

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and render valuable service during the two World Wars, has made his story more of a legend than common knowledge.

This book is not autobiographical and it may be that the picture is presented in better perspective for that very reason. Williamson did once start writing his own story but a tent fire destroyed his manuscript and he was heartily glad to be rid of it and refused to begin again since Allah obviously preferred that he should not.

The account of Arabia and the neighbouring countries during the last fifty years is an interesting and informative one and a good many myths, such as the belief that a visit to Mecca by a European is fraught with deadly danger, are exploded. The absence of a map is the only serious omission in an otherwise fascinating and well-written book.

DOUGLAS LEECHMAN

* * *

Navaho Means People

Photographs by Leonard McCombe

Text by Evon Z. Vogt and Clyde Kluckhohn

(Saunders, Toronto, \$6.75)

The casual observer may see here merely another "picture book", a collection of good photographs showing us most graphically how the Navaho of today lives, how he faces the problems which confront him, and the remnants of the old culture which still remain, but a more perceptive and thoughtful reader will realize that this is a most important contribution to sociology.

It has long been one of the theses of social anthropology that, by studying a simple and isolated culture, we can throw much light on more complex and highly evolved cultures. Here we have an excellent opportunity of testing this thesis. Seventy years ago there were only about 15,000 Navahos, whereas there are today at least 68,000. Some of these have drifted away and gone to live in the cities but, by and large, these people form a single unit, ideal for study by the anthropologist, ideal also for experiments in administration and, as a result of innumerable surveys, a great deal has been discovered since 1846 when they first came under the control of the United States government.

It has become apparent, we are told, that efforts to substitute our religion for theirs lead to little lasting good; it has been found that education along the lines laid down for white children leaves the Navaho child unfitted for life in either culture; it is now realized that introducing our methods of herding and agriculture has led only to overgrazing and soil erosion; and government by the white man's law rather than by their own controls and sanctions has led to a distrust of both systems and confidence in neither. The white man's doctor may be efficient and the Navahos seek his help when they believe he may be useful but it is to the old time medicine man that they turn, for he knows what to do when a man feels "sick all over" or when he is convinced that his ills are due to a plague of "ghosts".

The last section of the book discusses the whole question of cultural adjustment, not only in the case of the Navahos but as it applies to all undeveloped races, and asks most pertinently: "after we have assisted the 'backward' and 'underdeveloped' areas of the world to obtain what we call a 'decent standard of living' by helping their people establish improved technologies and by creating in them a desire for the manufactured products of our own industrial system, what then? Do we allow them to refashion their own social structures and value systems to meet the changing conditions of economic life? Or do we attempt to inculcate them with our own particular version of social and political forms? Or do we supply the material goods and improved technology and allow the communists to supply them with a new 'religion' and set of values? These are certainly far from merely academic questions in the modern world."

Apart from the considered and scholarly text, we have here an extraordinarily fine series of photographs depicting many phases of Navaho life today. The bad is shown along with the good and there is no romanticizing, no special pleading, no *parti pris*. Leonard McCombe, the photographer, shows himself a man of keen perception and deep sympathy and he, as well as the two authors, Evon Z. Vogt and Clyde Kluckhohn, are to be congratulated on a fine job well done, one which may help us to remember that "Navaho means people" and that until we treat all people as people we shall make mighty little progress in rebuilding our world nearer to the heart's desire.

DOUGLAS LEECHMAN

* * *

The Earth's Crust

A New Approach to Physical Geography and Geology

by L. Dudley Stamp

(Clarke, Irwin, Toronto, \$4.25)

This is one of the most unusual geographical books to have come to our attention in recent years. Not the least unusual feature about it is that the title precisely describes its contents. The "new approach" lies in the fact that actual areas of country were chosen. Next, faithful, accurate, scale models were made and the surface coloured true to nature with features such as trees, houses, roads and rivers indicated. Then the underlying geology and its relation to the surface features was put on the models which were finally "photographed both in colour and in monochrome so as to tell the whole story".

By "the whole story" Dr. Stamp means the sum total of the reasons for "scenery" being different in some areas from the scenery in other areas. The "why and wherefore of the great differences in scenery" is often difficult to understand because of the failure to correlate what can be observed in a landscape with what lies under the surface. This book is an attempt to "solve the problem".

Another part of the author's technique is the use of close-ups to show the details of parts of the models.

For example, Plate I is a photograph of a model of a mountain valley. Figure 16 is an enlarged portion of it to show the details of an alluvial fan. Figure 20 is a close-up of another part of it to show the scenery produced by atmospheric weathering in the high mountains and Figure 21 is a close-up of a still different part of the "parent model" to show the details of the stream. Then again the plate entitled "A volcanic neck providing a defensive site: Edinburgh Castle" is an enlargement of part of the photograph of a larger model called "An old volcanic neck in glaciated country—the Castle Rock, Edinburgh" and Figure 54 is another enlargement of this photograph.

The examples chosen, naturally, have most appeal to the people of Britain but the scenery of glaciation is well illustrated by a glaciated landscape on the Canadian Shield and in the section on the action of moving ice where kames and terminal moraines come in for special mention. The author stresses that "in a country which has not been glaciated the land-forms frequently depend almost directly on the character of the underlying rocks and their disposition, whereas in glaciated country this relationship is obscured".

The approach is presented in four parts. Part I deals with Denudation and Deposition; Part II with Orogenesis, or Mountain Building; the third part explains Geomorphology (Structure and Scenery) and the final part deals with Rocks, Minerals and Man.

There are about eight pages of diagrams and photographs to every six pages of text. Under such circumstances it must have been difficult to arrange the material in a logical order for printing. However, the resulting order is the only confusing aspect of the book. In Part I, for example, one finishes reading the section on "the action of wind" and turns the page only to find a picture of a river valley drowned by the sea, with an explanatory text, followed by six similar pages of photographs with their captions. Then, and only then, is the theme of Part I continued. The text does not catch up with the "interfering" pictures until further on in the book.

Otherwise, the book is most clearly presented and, as Dr. Isaiah Bowman says in his foreword, "the man who is clear is the man who persuades". *The Earth's Crust* should persuade many that interest in scenery can be painlessly transformed into understanding scenery.

NORMAN L. NICHOLSON.

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The Canadian Pageant

by G. J. Reeve and R. O. MacFarlane

(Clarke, Irwin & Company Limited, Toronto, \$3.00)

This book by two Manitoba educators is evidently intended for use in schools; and no job that a Canadian historian can do is more important than arousing an interest in their country's past among the younger generation. People constantly complain that Canadian history as taught in schools is as dull as ditchwater. There has often been a good bit of justification for the

complaint, and some of the responsibility lies at the door of the authors of textbooks.

The Canadian Pageant has virtues. There is a lot of interesting stuff in it. Probably the part the youngsters will like most is the illustrations, which are numerous and very frequently excellent. The authors (unlike some writers who are queerly hypnotized by the earliest periods) make a point of devoting the greater part of their book to the period since Confederation, and for this the present reviewer has nothing but applause. All the same, he feels that the earlier part of the book is the most successful. It is very sketchy, but has a sweep and movement that the later sections lack. Those sections are organized too much on the topical method to move naturally and easily — it is something of a shock to have the War of 1812 coming after Confederation, and the First World War coming before the Treaty of Washington of 1871; and though it is hard for middle age to look at things through teen-age eyes, it is possible that these modern chapters would be more interesting to boys and girls if they contained fewer dates, fewer figures, fewer lists of names, and more discussion of large issues. Some of the chapters seem a trifle perfunctory (one of these is that on the Second World War); and the lists of "Source Material" cover some of the chapters in detail and others not at all (both World Wars fall in the latter category).

Finally, there is a good bit of carelessness and inaccuracy, not calculated either to set a good example to the young or to increase their respect for the book. Decimal currency is introduced in 1850 on page 200 and in 1853 on page 361 (the latter date is correct, though the policy became effective only in 1858); the Welland Canal is opened in 1824 on page 198 and in 1833 on page 332 (the actual date was 1829, though an extension was opened in 1833); the Intercolonial Railway is finished in 1872 on page 200 and in 1876 (the actual date) on page 322. One of the most peculiar statements is that which assures us that in 1949 an amendment to the British North America Act "abolished appeals to the Privy Council" and "dropped the term 'Dominion' from official documents". Appeals to the Judicial Committee were abolished in that year, but by a Canadian act; and although two British North America Acts were passed by the British parliament in 1949, neither made any reference to the word "Dominion". Perhaps these are minor details, but the list could be lengthened. The reader is left wishing that the authors had paid their juvenile audience the compliment — which it so much deserves — of taking a little more trouble.

C. P. STACEY

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Trees for American Gardens

by Donald Wyman

(Macmillan, Toronto, \$8.75)

This is a most excellent book, undoubtedly one of the best in its field. Merely to thumb through it, to observe the completeness of the treatment, the logical

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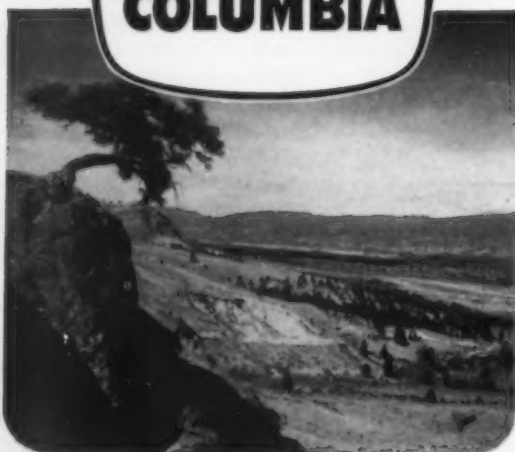


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(Continued from page X)

and convenient arrangement, and the practical point of view is a pleasure. The author is on the staff of the world-famous Arnold Arboretum at Jamaica Plains, Massachusetts, and his book is a credit both to him and to the Arboretum.

It is a companion volume to his *Vines and Shrubs for American Gardens* and follows the same method of describing and evaluating plants. Such topics as hardiness, spring and autumn foliage colours, size and colour of fruit, trees for various purposes, street and highway planting, one hundred tree champions, and dwarf trees are discussed. A large part of the book consists of a list of nearly 750 recommended trees, arranged alphabetically by genus, each described and discussed in detail. Another list gives the names of about 1,600 less desirable species.

There are many illustrations and a good index which acts also as a useful key to the generic lists if one can remember only the common name of any tree. The end papers have been used to advantage, one showing geographical zones of hardiness, and the other the average dates of the last killing spring frost. While quite broad in its scope, space limitations have forced the author to omit much interesting information about many of the trees he discusses. Admittedly most useful to a landscape architect or a city parks official, it is well worth a careful study by the average small gardener.

DOUGLAS LEECHMAN.

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